

Glyphosate-Resistant Marestalk Burndown with RageD-Tech and Authority First.

Trial ID: 08-YRC-RageD-Tech      Location: Young Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
 City State Zip Country:      Murphysboro      IL 62966      USA  
 Trial Status: FINAL      Initiation Date:      04-17-08

Objectives: Evaluate Rage D-Tech as a tank-mix partner with glyphosate compared to 2,4-D in glyphosate-resistant marestalk.

Crop 1: YACKR Arable land      Variety: NON-CROP

Pest 1 Type: W      Code: ERICA      Conyza canadensis (L.) Crong.      horseweed  
 Pest Description:      glyphosate-resistant marestalk

Plot Width, Unit: 10      FT      Site Type:      FIELD  
 Plot Length, Unit: 30      FT      Tillage Type: NO-TILL  
 Replications:      3      Study Design: Randomized Complete Block

## Prior Crops, Year

1. GLXMA      2007

Field Prep./Maintenance: N 0 LB/A, P205 60 LB/A, K20 60 LB/A

% OM: 1.2      Texture:      VERY FINE SANDY LOAM  
 pH: 4.6      Soil Name:      ALVIN  
 CEC: 6.2      Fert. Level: P1 94 LB/A, K 208 LB/A

## Application Description

	A	B
Application Date:	04-17-08	05-04-08
Time of Day:	7:00	9:30
Application Method:	Spray	Spray
Application Timing:	1-2"MT	6"MT
Application Placement:	BROFOL	BROFOL
Applied By:	TGM	TGM
Air Temperature, Unit:	57 F	65 F
% Relative Humidity:	70	40
Wind Velocity, Unit:	3 MPH	1 MPH
Dew Presence (Y/N):	N	Y
Soil Temperature, Unit:	52 F	55 F
Soil Moisture:	NORMAL	ABONOR
% Cloud Cover:	10	0

Crop stage at application:      04-17-08      05-04-08  
 NA      NA

## Pest Stage At Each Application

	04-17-08	05-04-08
Application Date:	04-17-08	05-04-08
Weed Code:	ERICA	ERICA
Stage Majority (leaves):	6	16
Stage Min, Max:	6      8	4      24
Height Majority:	3      IN	5      IN
Height Min, Max:	2      4	2      6
Density, Unit:	2      FT2	3      FT2

## Application Equipment

	CO2 sprayer	CO2 sprayer
Appl. Equipment:	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002
Boom Length, Unit:	7.5 FT	7.5 FT
Spray Volume, Unit:	15 GPA	15 GPA

## Glyphosate-Resistant Marestalk Burndown with RageD-Tech and Authority First.

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Pest Code		ERICA-HR											
Crop Code		ERICA-HR											
Rating Date		06-05-08 06-15-08											
Rating Data Type		Control Control Control Control Control											
Rating Unit		Percent Percent Percent Percent Percent											
Rating Timing		7 DAT 14 DAT 28 DAT 0 DAPP 7 DAPP											
Trt-Eval Interval		7 DAT 14 DAT 28 DAT 0 DAPP 7 DAPP											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED								0 f	0 e	0 f	0 e	0 g
2	RAGE D-TECH	4.06	EC	0.38	lb ai/a	0.75	pt/a	1-2"MT A	77 b	94 a	98 abc	86 d	72 ef
2	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
2	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
3	RAGE D-TECH	4.06	EC	0.51	lb ai/a	1.0	pt/a	1-2"MT A	84 a	94 a	97 abc	93 bc	80 cd
3	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
3	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
4	2,4-D LV 4	3.8	EC	0.356	lb ae/a	0.75	pt/a	1-2"MT A	68 cd	95 a	98 ab	92 c	75 de
4	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
4	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
5	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1.0	pt/a	1-2"MT A	65 d	96 a	99 a	93 bc	82 bc
5	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
5	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
6	2,4-D LV 4	3.8	EC	0.95	lb ae/a	2.0	pt/a	1-2"MT A	74 b	97 a	99 a	96 abc	87 b
6	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
6	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
7	RAGE D-TECH	4.06	EC	0.38	lb ai/a	0.75	pt/a	1-2"MT A	84 a	96 a	98 ab	99 a	99 a
7	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
7	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
7	AUTHORITY FIRST	70	DF	0.131	lb ai/a	3.0	oz/a	1-2"MT A					
8	RAGE D-TECH	4.06	EC	0.51	lb ai/a	1.0	pt/a	1-2"MT A	86 a	96 a	99 a	99 a	99 a
8	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	1-2"MT A					
8	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	1-2"MT A					
8	AUTHORITY FIRST	70	DF	0.131	lb ai/a	3.0	oz/a	1-2"MT A					
9	RAGE D-TECH	4.06	EC	0.38	lb ai/a	0.75	pt/a	6"MT B	60 e	66 d	85 e	83 d	68 f
9	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
9	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
10	RAGE D-TECH	4.06	EC	0.51	lb ai/a	1.0	pt/a	6"MT B	65 d	67 d	84 e	82 d	70 ef
10	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
10	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
11	2,4-D LV 4	3.8	EC	0.356	lb ae/a	0.75	pt/a	6"MT B	57 e	74 c	95 d	95 abc	93 a
11	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
11	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
12	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1.0	pt/a	6"MT B	60 e	82 b	96 cd	98 a	98 a
12	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
12	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
13	2,4-D LV 4	3.8	EC	0.95	lb ae/a	2.0	pt/a	6"MT B	60 e	82 b	96 bcd	97 ab	99 a
13	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
13	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
14	RAGE D-TECH	4.06	EC	0.38	lb ai/a	0.75	pt/a	6"MT B	70 c	83 b	95 d	97 ab	98 a
14	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
14	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
14	AUTHORITY FIRST	70	DF	0.131	lb ai/a	3.0	oz/a	6"MT B					
15	RAGE D-TECH	4.06	EC	0.51	lb ai/a	1.0	pt/a	6"MT B	68 cd	84 b	95 d	97 ab	98 a
15	ROUNDUP P-MAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	6"MT B					
15	N-PAK AMS	100	SL	5.0	% v/v	5	% v/v	6"MT B					
15	AUTHORITY FIRST	70	DF	0.131	lb ai/a	3.0	oz/a	6"MT B					
LSD (P=.05)									3.5	5.7	2.2	4.2	6.4
Replicate F									3.714	2.590	0.093	0.323	2.766
Replicate Prob(F)									0.0371	0.0929	0.9118	0.7266	0.0801
Treatment F									279.419	157.564	1119.711	294.279	132.719
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Trial Comments

1. Protocol: FMC/SIU.
2. Ratings: WC at 7, 14 + 28 DAT. CI/WC at 21 DAP.
3. DAT = Days after treatment. DAPP = Days after planned planting.  
Ratings at 7, 14 and 28 days after the 1-2"MT application were on 4-24-08, 5-01-08 and 5-15-08, respectively.  
Ratings at 7, 14 and 28 days after the 6"MT application were on 5-11-08, 5-18-08 and 6-01-08, respectively.
4. Ratings on 6-15-08 include evaluation of residual control.
5. The planned 21 DAP ratings were not possible due to competition from a vigorous flush of pigweed.  
ERICA-HR = Herbicide-resistant marestalk (glyphosate).
6. Not harvested (non-crop).